

What is claimed is:

1 1. A quality of service (QoS) point coordinator (PC) for a basic service set (BSS)
2 in a wireless network, the PC comprising:
3 a QoS management entity (QME) receiving at least one reservation request
4 message characterizing one of a QoS session and a QoS application (session/application), the
5 reservation request message containing at least one QoS parameter set and requesting a
6 resource of a communication channel in the BSS for the QoS session/application; and
7 an admission control entity (ACE) performing macro bandwidth management
8 for QoS traffic transport of the session/application over a medium access control (MAC)
9 sublayer for the communication channel, the (ACE) determining whether to grant the
10 reservation request based on at least one QoS parameter set associated with the
11 session/application.

1 2. The QoS PC according to claim 1, wherein the QoS session/application is of a
2 continuous/periodic flow type and is time sensitive.

1 3. The QoS PC according to claim 1, wherein the QoS session/application is of a
2 discontinuous/bursty flow type and is time tolerant.

1 4. The QoS PC according to claim 1, wherein the communication channel is

2 organized into superframes, each superframe comprising a contention-free period (CFP) and
3 a contention-period (CP); and
4 wherein the at least one reservation request message requests a predetermined
5 bandwidth of each CFP of the communication channel in the BSS.

1 5. The QoS PC according to claim 1, further comprising a frame schedule entity
2 (FSE) that provides the QME with a channel status information on a superframe basis, the
3 channel status information being related to a CFP and at least one of the useable total channel
4 bandwidth, channel bandwidth used for the continuous/periodic flow type, and the channel
5 bandwidth used for the discontinuous/bursty flow type.

1 6. The QoS PC according to claim 5, wherein the ACE admits a
2 session/application of continuous/periodic flow type to the communication channel of the
3 BSS when the bandwidth requested for the session/application does not exceed the
4 bandwidth useable minus the bandwidth used for the continuous/periodic flow type.

1 7. The QoS PC according to claim 5, wherein the at least one QoS parameter set
2 characterizing a QoS session/application contains a priority level; and
3 wherein the ACE admits a session/application of discontinuous/bursty flow
4 type to the communication channel of the BSS when the bandwidth requested for the

1 8. The QoS PC according to claim 1, wherein the at least one QoS parameter set
2 characterizing a QoS session/application contains at least a mean data rate and a maximum
3 data burst, the mean data rate being related to a token rate of a token bucket and the
4 maximum data burst being related to a bucket size of the token bucket; and
5 wherein admission control is based on a bursty behavior of the token bucket.

1 10. The QoS PC according to claim 1, wherein the wireless network is a wireless
2 local area network (WLAN).

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3 receiving at least one reservation request message characterizing one of a
4 Quality of Service (QoS) application and a QoS session (session/application), the reservation
5 request message containing at least one QoS parameter set and requesting a resource of a
6 communication channel in the BSS for the QoS session/application; and
7 performing macro bandwidth management for QoS traffic transport of the
8 session/application over a medium access control (MAC) sublayer for the communication
9 channel by determining whether to grant the reservation request based on at least one QoS
10 parameter set associated with the session/application.

1 12. The method according to claim 11, wherein the QoS session/application is of
2 a continuous/periodic flow type and is time sensitive.

1 13. The method according to claim 11, wherein the QoS session/application is of
2 a discontinuous/bursty flow type and is time tolerant.

1 14. The method according to claim 11, wherein the communication channel is
2 organized into superframes, each superframe comprising a contention-free period (CFP) and
3 a contention-period (CP), and
4 wherein the at least one reservation request message requests a predetermined
5 bandwidth of each CFP of the communication channel in the BSS.

1 15. The method according to claim 11, further comprising a step of generating
2 channel status information on a superframe basis, the channel status information being
3 related to a CFP and at least one of the useable total channel bandwidth, channel bandwidth
4 used for the continuous/periodic flow type, and the channel bandwidth used for the
5 discontinuous/bursty flow type.

1 16. The method according to claim 15, further comprising a step of admitting a
2 session/application of continuous/periodic flow type to the communication channel of the
3 BSS when the bandwidth requested for the session/application does not exceed the
4 bandwidth useable minus the bandwidth used for the continuous/periodic flow type.

1 17. The method according to claim 15, wherein the at least one QoS parameter set
2 characterizing a QoS session/application contains a priority level,

3 the method further comprising a step of admitting a session/application of
4 discontinuous/bursty flow type to the communication channel of the BSS when the
5 bandwidth requested for the session/application does not exceed the bandwidth useable
6 minus the bandwidth used for the continuous/periodic flow type, and minus the bandwidth
7 used for the discontinuous/bursty type relating to a priority level that is higher than the
8 priority level of the session/application requesting the bandwidth reservation.

1 18. The method according to claim 11, wherein the at least one QoS parameter set
2 characterizing a QoS session/application contains at least a mean data rate and a maximum
3 data burst, the mean data rate being related to a token rate of a token bucket and the
4 maximum data burst being related to a bucket size of the token bucket, and
5 wherein the step of performing admission control is based on a bursty behavior of the token
6 bucket.

1 19. The method according to claim 11, wherein the at least one QoS parameter set
2 characterizing a QoS session/application contains at least a mean data rate, and
3 wherein the step of performing admission control is based on the mean data rate.

1 20. The method according to claim 11, wherein the wireless network is a wireless
2 local area network (WLAN).